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      ##ÿÿ####ÿÿ####Uÿ¥#ÿÿd#########äÿ##÷ÿ####□###PHARMACOLOGYTOPICAL ANESTHESIA
PENILE BLOCKILIOINGIUNAL-ILIOHYPOGASTRIC NERVE BLOCKCAUDAL ANESTHESIA/ANALGESIA
SPINAL ANESTHESIAAXILLARY BLOCK
```

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ÿÿ####ÿÿ####Uÿ¥#ÿÿd#########äÿ#########/###REGIONAL ANESTHESIA NOW #OCCUPIES ALMOST AS IMPORTANT A #PLACE IN PEDIATRIC ANESTHESIA AS #IN ADULT ANESTHESIATHE SKILLS LEARNED IN ADULT #PATIENTS CAN EASILY BE #TRANSLATED INTO REGIONAL #BLOCKS IN PEDIATRIC PATIENTSSOME REGIONAL TECHNIQUES SUCH #AS CAUDALS ARE ACTUALLY EASIER #IN PEDIATRIC PATIENTS

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###d#########Çÿ########0##□##□ø#ýt#û#ÿÿ####ÿÿ####Uÿ¥#ÿÿd#########äÿ##÷ÿ####l###TOXIC BLOOD LEVELSLITTLE KNOWN IN CHILDRENADULT LEVELS AS REFERENCES RAPIDITY OF
ABSORPTION TOTAL DOSE

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###RELATIVELY RAPID INCREASE TO #PEAK BLOOD CONCENTRATIONS #FOLLOWING
#INTERCOSTAL,TRACHEAL AND #INTERPLEURAL INJECTIONS OF #LOCAL ANESTHETICS REQUIRE
#CAUTION
```

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      ³#ÿÿ####ÿÿ####Uÿ¥#ÿÿd#########äÿ##÷ÿ####H###LARGER DOSES ON MG/KG BASIS
GREATER VOLUME OF DISTRIBUTION LOWER PEAK PLASMA LEVELSBUPIVACAINE<3MG/KG
LIDOCAINE<10MG/KGNEONATES AND INFANTS LESS THAN 3 MONTHSDECREASED HEPATIC
METABOLISMREDUCED ALBUMIN AND ALPHA-1 ACID #GLYCOPROTEIN HIGHER PEAK PLASMA LEVELS
GREATER FREE UNBOUND FRACTIONMAXIMUM DOSE AMIDE REDUCED 50%
```

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###PHARMACOKINETIC CHANGES-PEAK #PLASMA LEVELS OF LOCAL #ANESTHETICS AND
METABOLISM OF #LOCAL ANESTHETICSPHARMACODYNAMIC #CHANGES-DOSE-RESPONSE
#RELATIONSHIP AND TOXICITYDETERMINE SAFE MAXIMUM DOSES2MCG/KG WELL BELOW TOXIC
#PLASMA LEVELSSIMILAR EFFECTS IN PATIENTS OF #ALL AGES WITH FEW EXCEPTIONS
```

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÷□ý□#c#ÿÿ####ÿÿ####Uÿ¥#ÿÿd#########äÿ##÷ÿ####f###RAPID ABSORPTION AND
REDISTRIBUTIONSLOW ELIMINATION PHASET1/2 LIDOCAINE 2 HRST1/2 BUPIVACAINE 4 HRS

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      ##ÿÿ####ÿÿ####Uÿ¥#ÿÿd#########äÿ##÷ÿ####□###EMLA CREAMEUTECTIC MIXTURE
LOCAL ANESTHETICSLIDOCAINE AND PRILOCAINEAPPLIED TO INTACT SKINOCCLUSIVE DRESSING1
HOUR PREPARATION ANESTHESIA DEPTH 5MM
```

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#ÿÿ####ÿÿ####Uÿ¥#ÿÿd#########äÿ##÷ÿ####±###ANATOMYDISTAL TWO-THIRDS COVERED
BUCK'S FASCIAINNERVATED BILATERAL DORSAL NERVES DORSAL ARTERY AND VEINBASE AND
PROXIMALINNERVATED GENITOFEMORAL AND #ILIOINGUINAL NERVESN

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      ³#ÿÿ####ÿÿ####Uÿ¥#ÿÿd#########äÿ##÷ÿ####Þ###TECHNIQUERETRACT PENIS TOWARDS
FEETINSERT NEEDLE BELOW SYMPHISIS PUBIS 90 DEGREE TO SKIN"POP" AS BUCK'S FASCIA IS
PIERCED1/2  DOSE INJECTED EACH SIDE OF MIDLINE11:00 AND AT 13:00 1CC
SUBCUTANEOUSLY DORSAL UNDERSIDE
```

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###< 3MN ANESTHETICS INFILTRATES #INTO SURGICAL WOULD #AREA,ANNOYING THE SURGEON#
```

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³#ÿÿ####ÿÿ####Uÿ¥#ÿÿd#########äÿ##÷ÿ####ï###ANATOMYILIOINGUINAL NERVEL1 BRANCH
LUMBAR PLEXUSBETWEEN TRANSVERSE,INTERNAL OBLIQUESENSATION SKIN OF SCROTUM
ILIOHYPOGASTRIC NERVET12, L1 BRANCH LUMBAR PLEXUSSUPERFICIAL INGUINAL MUSCLES,
ASISSENSATION SKIN ABOVE INGUINAL LIGAMENTA

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ë#ÿÿ####ÿÿ####Uÿ¥#ÿÿd#########äÿ##÷ÿ####³###TECHNIQUE25 GAUGE NEEDLE  1/2 INCH
MEDIAL, 1/2 INCH INFERIOR  ASIS 3"POPS": SKIN, EXTERNAL, INTERNAL OBLIQUES 3 FAN
SHAPED INJECTIONS TECHNIQUEINSTILLATION ON EXPOSED NERVESE
```

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ICATIONSSURGERY BELOW DIAPHRAGMCONTRAINDICATIONSABERRANT ANATOMY,SKIN RASH,SEPSIS
DRUGS/DOSESARMITAGE FORMULA 0.5 ML/KG SACRAL1.0 ML/KG LOWER THORACIC(T6)1.25 ML/KG
MID THORACIC#

```
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E SHOT MOST USEFUL AND #POPULAR PEDI BLOCK# CONCENTRATIONS OF BUPIVACAINE
#ADDRESSED BY MANYCONCENTRATIONS <0.25 % NO LESS #MOTOR BLOCK,BUT LESS ANALGESIA
VERY FEW PROBLEMS, ALTHOUGH IS #POSSIBLE TO REACH #DURA,VEINS,RECTUMFISHER
DEMONSTRATED MOST VOID #6-8 HOURSNO DIFFERENCE WITH VOIDING TIME #OR ANALGESIA
COMPARED TO #ILIO-ILIONO AGREEMENT WHETHER AGE OR #WEIGHT BETTER CRITERION FOR
#DOSAGETOTAL MG/KG DOSAGE MUST BE #CHECKED#
```

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û#ÿÿ####ÿÿ####Uÿ¥#ÿÿd#########äÿ##÷ÿ####□###ANATOMYEQUILATERAL TRIANGLE POINTING
SOUTH2 POSTERIOR ILIAC SPINES =SACRAL CORNUAESACRAL HIATUS ALWAYS ABOVE
INTERGLUTEAL FOLDSE
```

###0#0#ÿÿ##□ÿ########HA######0##□##ÄøÑ#l#¿
ÿÿ####ÿÿ####Uÿ¥#ÿÿd#########äÿ########ï###SACRAL HIATUS EASY TO IDENTIFY
COVERED BY SACROCOCCYGEAL #MEMBRANEEPIDURAL FAT GELATINOUS OFFERS #LESS RESISTANCE
TO CEPHALAD #SPREAD AND CATHETER #PLACEMENTDURAL AND SUBARACHNOID SACS #MAY EXTENT
TO 3 OR 4TH SACRAL #VERTEBRAE IN INFANTSL

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      ##ÿÿ####ÿÿ####Uÿ¥#ÿÿd#########äÿ##÷ÿ####ú###TECHNIQUE-SINGLE SHOT
PRONE,LATERAL WITH HIPS FLEXEDSACRAL HIATUS ,CORNUAE IDENTIFIED23G B BEVEL,22G OR
20G IV CATH,23G #BUTTERFLY 45 DEGREE ANGLE TO SKIN AT SACRAL HIATUS"POP"
SACROCOCCYGEAL LIGAMENT ANGLE LOWERED TO 20 DEGREESADVANCED  1-2 MM
```

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######0##□##ÄøÑ#4#□#ÿÿ####ÿÿ####Uÿ¥#ÿÿd#########äÿ########k###FINGER AT INSERTION
SITE R/O SUB #Q INJECTIONBEVEL FACING ANTERIORLY TO R/O #PIERCING ANTERIOR SACRAL
WALL#
```

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HNIQUE-SINGLE SHOTREPEATED ASPIRATION TEST DOSE? FRACTIONAL, SLOW INJECTION#
```

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######0####ÄøÑ#ü#ÿ#ÿÿ####ÿÿ####Uÿ¥#ÿÿd#########äÿ#########Û###UNLIKE SOME OTHER
EXPERTS IN #THIS FIELD, I DO NOT ADVOCATE #ABANDONING THE TEST DOSE #BECAUSE THE
MAJORITY OF TIMES #IT WILL INDEED DETECT #INADVERTENT INTRAVASCULAR #INJECTION IN
THE ANESTHETIZED #CHILD > THREE MONTHS#

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k#ÿÿ####ÿÿ####Uÿ¥#ÿÿd#########äÿ##÷ÿ####+###TECHNIQUE-CONTINUOUS STANDARD ADULT
CATHETERS SPECIAL CATHETERS20 G NEEDLES WITH 24 G CATHETERSSHORT18 G TUOHY WITH 20
G CATHETERSCATHETERS  PASSED TO THORAXINFUSION0.4-0.5 MG/KG/HR BUPIVACAINE OLDER
#INFANTS,TODDLERS,CHILDREN0.2-0.25 MG/KG/HR BUPIVACAINE FOR NEONATES1.5 MG/KG/HR
LIDOCAINEO
```

O######0####ÄøÑ#L#ß#ÿÿ####ÿÿ####Uÿ¥#ÿÿd#########äÿ######### ###SMALL CATHETERS KINK AT #SKIN,VERY HIGH RESISTANCE TO #FLOWDO NOT RELY ON PREMONITORY #SYMPTOMS OR SIGNS FOR #DETECTION OF TOXICITYRESTLESSNESS OR AGITATION CAN #BE DUE TO CNS TOXICITYDO NOT EXCEED RECOMMENDED #DOSES OR INFUSION RATESADD EPIDURAL OR SYSTEMIC OPIOIDTEST CATHETER LOCATION WITH #CONTRAST EPIDUROGRAPHYDO NOT EXPECT LOW-PLACED #LUMBAR OR CAUDAL EPIDURAL #LOCAL ANESTHETIC INFUSIONS TO #PROVIDE THE SOLE ANALGESIA #AFTER SURGERY IN UPPER #ABDOMINAL OR THORACIC #DERMATOMESREDUCE INFUSION RATES FURTHER #FOR PATIENTS WITH RISK FACTORS #FOR SEIZURES1. INCREASED #UPTAKE INTO THE CIRCULATION: #ARTERIOVENOUS #MALFORMATION2.PAST HISTORY OF #FEBRILE #SEIZURE,HYPOMAGNESEMIA,HYPON#ATERMIALIMITING THE INFUSION OF #BUPIVACAINE TO <48 HRSTREATMENT OF CARDIAC TOXICITY 5 #MG/KG PHENYTOIN

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THAN IN NORMAL ADULTPERFORM BELOW L3 INTERSPACESUBARACHNOID SPACE 1-1.5CM #BELOW
S□K□INHIGHER DOSE REQUIREMENT ON #BODY WEIGHT BASISDURATION MUCH SHORTERNO
HYPOTENSION OR BRADYCARDIA #<3 YEARS)

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HNIQUESITTING POSITION HEAD SUPPORTEDMAXIMALLY FLEXED22 G 3.5 CM OR 25 G 2.25 CM
NEEDLECLEAR FENESTRATED DRAPE1 ML TUBERCULIN SYRINGE
```

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      û#ÿÿ####ÿÿ####Uÿ¥#ÿÿd#########äÿ##÷ÿ####Ê###INDICATIONSSURGERY ARM , HAND
CONTRAINDICATIONSFRACTURES  WITH ULNAR NERVE INJURYRASH,SEPSISDRUGS/DOSAGESRAPID
ONSET0.5 CC/KG 1% LIDOCAINE+0.1% TETRACAINELONG DURATION0.5 CC/KG 0.25%
BUPIVACAINE
```

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      ³#ÿÿ####ÿÿ####Uÿ¥#ÿÿd#########äÿ##÷ÿ####ê###ANATOMYBRACHIAL PLEXUS VERY SUPERFICIALBRACHIAL PULSE EASILY PALPATED IN AXILLATECHNIQUE25 G BUTTERFLY OR 23 G B BEVEL NEEDLEINSERT ADJACENT TO BRACHIAL PULSE1/2 DOSE INJECTED ANTERIORLY 1/2 DOSE INJECTED BEHIND AXILLARY ARTERY

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AISSANCE REGIONAL ANESTHESIACHILDREN FEEL PAIN AS ADULTSCOMPLETE ANALGESIAMINIMAL
PHYSIOLOGIC DERANGEMENTCOMBINED TECHNIQUESPROFOUND ANALGESIADECREASED NARCOTIC USE
RAPID PAIN FREE RECOVERY
```

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